Chapter 43

The Cholas, Horses, Horse-trade, Import and Export!

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Horses from the Sangam period to the Chola period: The Sangam literature like Pattinappalai clearly recorded that, "horses came by waters," i.e, horses were imported through ships through maritime trade[1]. Kalingattupparani and Muvarula of 12th century give more details about horses, characteristics, cavalry, etc. Tiruvilaiyadal Puranam mentions Siva as "Ravuttar," as He came as a horse-merchant. Moreover, the Tamil manuscripts[2] clearly noted that the horses imported from Parasikam was known as "pari," Turkey as "turukam," and Khorosan as "koram." Therefore, it is evident that the horses were clearly identified with the origin of country / supply. Had horses were known during the Sangam period, it is quite possible that they were bred, interbred and indigenous varieties were also produced during the course of time. Thus, during the Chola period, after 1500-1000 years from Sangam period, definitely, indigenous varieties could have been developed. Perhaps, when the imported horses were cheap, they resorted to buy from the foreigners[3]. In fact, the Arabs / Mohammedans had also experimented with miscegenation to produce hybrid varieties capable of exhibiting more vigour, strength and stamina, necessitating for export.

Tamil literature references to horse and horse related issues: There are thousands of references to horse and horse related issues in the ancient Tamil / Sangam literature and thereafter. For the context, the literature related to the Chola period is dealt with. Here, Kalingattupparani, Vikrama Cholan Ula (Promenade of Vikrama Chola 1118-1136 CE), Kulottunga Cholan Ula (Royal stroll of Kulottunga Chola 1133-1150 CE) and Rajaraja Cholan Ula (Majestic walk of Rajaraja Cholan 1146-1164 CE) are taken for consideration. For brevity, the examples of Kalingattupparani[4] are detailed (the verse no. is given in the brackets):

- Horse that capable of killing enneny – in other words the horse was so co-operative helping the warrior in all possible way to fight with enemy and kill him or get victory (149).
- Horses dead and found on the battle field after a conflict (197, 305).
- Sacrifice of a horse to Kali is implied (212)
- As Sun rides on a chariot fitted with seven horses dispelling the darkness, so also, Kulottunga rides horse (246)
- Cavalry fight- how horse mounted warriors fight with each other (253)
- Horse drawn chariot (290)

- Horse as one of the items paid as a tribute along with valuables; in other words, horse was considered as a valuable asset (334)
- Fight between cavalry and elephant riding warriors (350)
- Different types of horses mentioned as pari, dhusi, turakam (365)
- Specialty of the cavalry (418, 458)
- Cavalry destroying the soldiers on foot (425)
- Horses with raising tails stylishly (433)
- Cavalry destroyed during a battle (445, 474, 479, 527)
- Cavalry and horses captured after a war (490)

These references amply prove the deployment of cavalry during the Chola period.

The Cholas and army: During the course of rise of the Cholas from the 10th century, as they started having conflicts with others, slowly they started to organize their army. Though, they were using the mercenary type armed groups like Mutharaiyars, and then they also concentrated on establishing regular military. Here, they followed a unique way of engaging them for multi-purpose activities, so that common people developed respect for them. The Cholas had a well-trained cavalry which was composed of a superior variety of horses. They purchased horses imported from Arabs and elephants from Ceylon, Malabar and Kalinga. During the period there was an active horse trade on the Western coast with the Arabian countries by the merchants of west coast of India. Rajendra during his SEA campaign, used the large ships capable of carrying 600 to 700 soldiers while other ships could as much as 100 horses along with their riders and weapons. Rajendra Chola had thoughtfully carried a large number of Arabian horses in the various transport ships during his oversea campaign. He had planned in detail, the way as he was going to fight the war. According to strategy, he first defeated Sailendra's naval fleet by fighting a series of naval battles in and around Malacca Straits[5]. Then, he proceeded to Sri Vijaya to control them.

The Cholas unified strategy for development: The land survey, water management, temple building and invasion without annexation had gone together. The invasion had not been incursion with offense, but, cultural and friendly. These activities were carried on when Rajendra visited the lands of Andhra, Karnataka, Orissa and Kerala also, where the Cholas temples could be seen with their inscriptions. The temple building activities of the Cholas clearly prove the extensive usage of horses and elephants. As Rajendra brought 40 Nolumba pillars from Hemavati[6], sculptures from other places and Gahadavala inscription, it is evident that he was using well-trained elephants and horses to bring them to Gangaikondacholapuram and Tanjore. That they built temples in Andhra, Karnataka and erected victory pillars within India and even outside India[7] prove that they were having such infrastructure to do so. Perhaps, they set an agenda of meeting Sivacharyas, exploring old temples, bringing war-trophies, fetching sacred waters and controlling their adversaries.

The horse in India – contradicting status: The researchers and historians argue that it is well-known that horses were not in India, but brought from outside[8], even noted in by Kautilya. Of course, even the Sanskrit literature vividly explained the usage of horses in different contexts. The same historians make hue and cry that the Vedic rishis conducted yagnas, including Aswameda killing horses. The Sangam literature mentions the usage of horses by the Tamil kings. Therefore, a question arises as to even the horses available during the Sangam period viz., 4th cent.BCE, now 6th cent.BCE whether they

were also brought from outside or existed indigenously. If they were brought from outside, then, from where, they were brought – from Arabia or Central Asia? However, as elephant keeping, training and talking with them by certain group of people and such other details are mentioned, there is no mention about horse rearing etc. in the Sangam literature. In other words, it has to be decided as to whether, it is chronological lacuna or factual inaccuracy.

The horse-traders, agents and representatives: For the Cholas, one trading group, characteristically mentioned as "Kuthirai chetti," implying certain Chetti community engaged in the affairs of horses[9]. According to R. Champalalakshmi, as the inscriptions suggest they acquired residential quarters within the Chola heartland and other areas, like the commercially viable Pudukkotai region, linking the Chola land with Tondi on the eastern coast. In the epigraphs, it is mentioned that they were always associated with the Manimangalam (Kerala, Cheranadu) coming under the reign of the Chola kingdom. In the same way, the Mohammedan agents would have also played intermediary role in the import of horses. Perhaps, when these Chettis refused to supply horses to the Cholas or controlled by the Chera masters, the "Kanthalursalai kalamarthuthal" type of action was initiated by the Cholas. As otherwise, the Tamil kings need not be fighting with each other with their common cultural, traditional and inherited background.

The Cholas buying horses from the Arabs /Mohammedans: The Arab / Mohammedan documents (as mentioned in the footnotes below) provide details about the Cholas dealing with the horses[10]. Referring to the inhabitants as the Sūliyān—literally "Cholas," since the Chola polity (c. 850–1279) had until recently been the dominant power across the region— on of the documents repeatedly notes this people's desire for horses[11]: "*the Sūliyān, they are the people who wish to buy horses*," and again, "*in all of India few desire to buy horses as much as the Sūliyān desire it*." This also shows that the Cholas engaged the Mohammedans for the horse trade. In fact, even the names of the representatives sent to China prove that there were Mohammedans.

1. The first Chola mission, which arrived at the Song court on the second day of the ninth lunar month of the eight year of the Dazhongxiangful period (Oct. 1015), after a journey of more than three years through Sri Lanka, Mynmar, Java, Srivijaya and Vietnam, was composed of fifty two representatives.
2. The second-in-command of the mission was Pu Jiaxin (Abu Kasim), who may have been a member of Muslim trading Diaspora in Cola territory.
3. The third Cola mission (Nov. 15, 1033) was led by a Muslim trader called Pu Yatholi (Abu Adil?[12])

The Chola merchants are known to have dealt in both horses and camels (Karashima 2009: table 8.2)[13]. In the inscriptions of the twelfth century and after, references are found about horse merchants, and in Kerala there seem to have been many trade centres for the import of horses[14]. The association of the Chettis with Manimangalam has already been noted. Adeen Cremin pointed out that the Cholas or merchant guilds of South India could have supplied Indian bred horses to the SEA[15]. The Cham or the people of Champa[16] played a crucial role in bringing horses to the SEA. While travelling, local people usually ride elephants, use small sedan chairs, or ride horses bought from Jiaozhou (i.e. Dai Viet[17] - northern Vietnam). Thus, the usage of elephants and horses are noted.

Different Mohammedan groups were involved in the "horse-trading": A careful study of the Mohammedan sources show that from the Arab invasion 712 CE onwards, the Arabs of all varieties adopted the strategy of exploiting the slaves and horses. They were traded and supplied to the required. As the groups from the Central Asia also came in, there was competition between these marauding

groups. That is why the Moghuls were attacked by such forces. Then, all these groups started strategically supplying the horses and slaves or rather mercenaries to the Indian kings and changed sides or deceived, leading to the defeat of both Indian kings. Thus, how the "horse trading centres" and "horse-trading"were exploited and the prices of horses were increased can be noted.

The Cholas, Pandyas and horses: The absence of horses from Pandya inscriptions contrasts with frequent references in earlier Chola donative inscriptions to horse merchants from Malaimandalam, present day Kerala, and with references in contemporary Hoysala inscriptions to horses as traded items[18]. Kalingattupparani repeatedly notes that horses were donated as tribute. Under the Cholas, the horse trade assumed important function and cavalry played an important role, while the armies of the other south Indian powers opposed them[19]. The constant battles fought by the Pandya kings of the Vaigai-Tamraparni basin with a number of rivals, especially the waning Chola kingdom, necessitated continuous importation of war horses[20]. The Saivite references point to Siva appearing as horse trader and Muruga as "horse riding Ravuttan" (Ravuttan generally refers to a Mohammedan). This might imply that they were having close relationship with the Mohammedans that led to the establishment of "Sultanate" later at Madurai later (1335-1338). Anyway, this could also show the horse trading could break the relationship between the Pandyas and the Cholas, as happened in the case of Cheras leading to "Kanthalur kalamaruttal" type episode.

Whether horses reached the Cholas from Bengal?: Ranabir Chakravarti concludes that coastal Bengal was involved in the shipping of horses to southeast Asia and they were brought from the northwest and/or far South India[21]. R. Chamapakalakshmi[22] has drawn attention to the importation of horses by sea in the two quotes from her book. However, she did not suggest that such horses could have reached Coromandel from the Bengal delta. It would be therefore logical to look towards the Bengal coast as the likely source of supply of horses to the Kaveri delta[23]. The Bengal coast thus plays a crucial role in the horse economy of a farflung area.

1. It appears to have received a handsome number of north-western horses (through Tibet);
2. some of these imported horses were then further re-exported to Southeast Asia;
3. others went to a southern destination bound for ports in the Coromandel area where some demands for war horses surfaced because of the changing political scenario.

No other area in the subcontinent than Bengal was involved in such a complex three-pronged transactions in horses. Thus, horses of Bengal also could have been one of the reasons for Rajendra to march towards Ganges. Some inscriptions prove the connection of the Cholas with the Ganges:

- A Gahadavala inscription found in the temple of Gangaikondacholapuram suggests that the Cholas had some sort of suzerainty over the Gahadavala king. The inscription of the Gahadavala king Govindarachandra appears after the name of the Chola king Kulottunga I.
- Chidambaram Inscription Tamil language, found refers to one Kamboja (Kambosha-raja) ruler who made a beautiful stone gift as a curio (katchi) to (Kulotunga) *Rajendrasoladevar* (i.e. Rajendra Chola) which with latter's permission, was embedded in front row of the *Chitrambalam* of the Nataraja temple.
- Dharmapala ruling in Dandabhukti finds mention in the Tirmulai Inscription of Rajendra Chola which he issued in his 13th regnal year, about 1025 CE. Dharmapala of the Kamboja-Pala Dynasty was ruling in Dandabhukti in the first quarter of the 11th century. When threatened by Pala rulers of Bengal, Dharmapala, reportedly sought help from Rajendra Chola.

- This Bengal-Choladesa-SEA connections could have also worked with the horse trade.

Horses from Tibet reaching Bengal and going to SEA: The Tibetan horses were popular, as they could travel stony, rough areas and the Mule varieties carry heavy luggage also. The Tabaqat-i-Nasiri of Minhajuddin Siraj[24] of the thirteenth century gives an indication of the availability of north-eastern horses - probably Tibetan ones - in Bengal. Chinese accounts of the fifteenth century and some Arabic accounts of the invasions of the Deccan by the Delhi Sultanate have been utilized here to suggest that early medieval Bengal not only received regular supplies of imported horses, but also witnessed the transportation of some of these war machines to the Deccan and China[25]. The texts dealing with the Tibetan horses also pointed out the Indian connection, while studying on the breeding and treatment of horses through manuscripts. From both a historical and medical point-of-view, the texts were influenced by "the horse texts" from India that were based on the Tibetan translation of the Ashvāyurveda (the knowledge of the long life of the horse[26]) and of Shālihotra (e.g. horse appraisal, horse types, significance of hair whirls)[27]. They were also influenced by the concepts of Chinese medicine (e.g. moxibustion, cauterization, and pharmaceutical therapy) and as it have been stated also for human medicine[28]. In any case, Tibet has been close to North Indian kingdoms and they could easily obtain the Tibetan bred horses of all categories.

The strategy of the Arabs / Mohammedans to intrude as horse-traders: It is quite normal that people had been after a particular type of goods, because of their popularity and easy usage, then, the sellers target them. In the same, the Arabs and Mohammedans tried to attract Indians. Tabaqat-i-Nasiri mentioned about two horse trading centres Nudiah (Arab and Persian horses) and Lakhnavati (horses from Tibet). The presence of Arab merchants at Chaul[29] (a Western coast town) also attracted the trade in good horses towards this port. It supplied horses to the Yadavas, Vijaynagara and other important principalities in south India. Copper was another important commodity that was exported from Chaul to other areas, specifically Cambay, through coastal trading. Kayal was a prominent port in South India that survived throughout the medieval period, receiving a regular supply of horses from western Asia. Marco Polo records that Kayal was in touch with the ships coming from the west. Ships arrived from Hormuz, Arabia, Kish and Aden bringing a large supply of war-horses. They engaged themselves as interpreters, mediators and agents. Particularly, in the maritime and oversea commercial activities, they established their indispensability. Slowly infiltrating and establishing their position, they tried to dominate and conquer weaker Indian rulers.

India had no conditions for horse-breeding and only the Mohammedans through their cavalry influenced the Indians: This type of arguments and interpretations have also been made[30]. In South Asia the conditions for horse breeding were relatively poor as a result of the general want of nutritious fodder grasses. But although the best warhorses originated from Central Asia and Iran, some good Indian horses were bred along the fringes of the Arid Zone – for example, in Kathiawar, in the Lakhi Jungle in the Punjab, and along the Bhima River in the Deccan[31]. The campaigns of Mohammedan armies of Ghaznavids, Ghurids, and Khaljis proved the might of mobile warfare, especially of well-trained archers on horseback, created an impact on the Indians[32]. Then, how the Indians were using horses earlier for more than 1000 to 2000 years and depicted in the sculptures is not known. Therefore, it can be interpreted that during the medieval period, more horses were imported from the Arabs / Mohammedans and earlier, they were using indigenously bred horses.

Yunnan as horse-trade centre supplying to SEA, Bengal and Deccan[33]: The scholars point out that horses entered Yunnan along with prehistorical migrations from Central Asian grasslands. The

Chinese dynasties had interest in these horses, as is evident from their records. The Yunnan horses were exported not only to China, but also to mainland Southeast Asia affecting Indian rulers. Bengal / Uttarapada like other parts of India did not have indigenous, good quality warhorses. During the reigns of the Palas (c.750-1175) and the Senas (c.1096-1225), there was a demand for horses. The Palas were getting warhorses steadily and the Senas became powerful with such horses. Thus, they had the titles – Aswapati (lord of horse), Gajapati (lord of elephants) and Narapati (lord of men). The horses received were identified as Tatatri and Bakadasti from north and northwest and hilly horses from Bhutan or Tibet, branded as Kohi variety. Ranabir Chakravarti finds that the Yunnan horses also added with as hilly horses. Bengal became the centre of import of horses and also export of horses to Deccan and China. Thus, why Rajendra invaded Bengal or wanted to have confederacy with the Palas could be anticipated with this horse-trade background.

Whether the Cholas exported horses or engaged in horse-trading or gifting horses?: Aedeen Cremin[34], a researcher has suggested the possibility of some horse-trading associated with the Cholas, based upon the images of Lvo cavalry at Angkor Wat, as they appeared with a long neck. An alliance with the ruler of central Thailand (whoever he may have been) would have been of interest to Rajendra I, who was himself engaged in empire-building on a large scale. The Cholas already had commercial contacts with southern Thailand[35] and it would not have been difficult to send horses to Lopburi. A possible indication of Chola trade is the curious representation of a long-necked horse, possibly an Arabian thoroughbred, towering over a young camel on a lintel at the late 11th century Prasat Ban Phluang, Surin[36]. The Chola merchants are known to have dealt in both horses and camels[37] and such unusual animals might have seemed appropriate items for sale or gift to a Khmer ruler. In handling horses, particularly riding them for long distances, they had to be left for rest and proceed. Wherever, horses were found unfit or injured, they had to be left for treatment or otherwise and continue journey. Under such circumstances, some of the horses of the Cholas might have been left there or given as gift or requested for treatment. Or the Tamil merchants could have resorted to such horse-trading. In fact, the Sri Vijaya King misrepresented to the Chinese that the Cholas were their agents. Thus, when the Chinese were in demand for horses, Sri Vijaya could have struck a deal with the Cham to supply horses, exploiting such goodwill. Incidentally, horse trade from South India, particularly from Tamilnadu to SEA has been also pointed out[38]. India was also chronically short of horses, and thus sent no more than a trickle to Southeast Asia. As early as the third century CE, horses from India may have reached the Straits of Melaka and Cambodia, although the destination could equally have been Tamilnadu[39]. The traffic to Southeast Asia was occasional, with no large numbers ever dispatched, and it was more than counter-balanced by Southeast Asian ponies entering Southern India[40]. Here, the possibility has been the sale of the horses from Arabia bringing to the Eastern coast and from there, they were exported to the SEA ports.

Horses, Gazni Mahmud and Rajendra Chola: Many historians noted that when Mamud Gazni was invading and intruding India from north-west, Rajendra Chola was marching towards north through the Coromandel Coast reaching Ganges. While Mahmud Gazni was looting, destroying and demolishing temples, Rajendra was building temples and returning with holy waters of Ganges for Temple consecration at Gngaikondacholapuram. Of course, both were using cavalry. Some scholars have interpreted that the campaigns of Mohammedan armies of Ghaznavids, Ghurids, and Khaljis made impact on the Indians and thus, they started using horses and cavalry, implying such cavalry usage started with or introduced by them. However, horses were there in India and Indians were using them.

There were indigenous species and the Arab varieties came thereafter. As the movement of Buddhists was recorded through many documents, their coming to Kanchipuram University for learning and retuning back to SEA and China, etc., it is evident that horses were involved in their travel from one place to another. The interbreeding started to produce cross-bred horse categories. A.van der Geer has dealt with Indian horses based on literary, sculptural, archaeological evidences and pointed out how the indigenous varieties played role in the Indian history[41]. Though, he could give the references of horses depicted at the temples of Vellore and Sri Rangam, he could not give the examples of others, but, there are horse sculptures in other temples also.

The production of literature on horse: The Tamil literature has many references about the horse, as already pointed out. During the medieval period, exclusive treatises dealing with the horses appeared in India, in many languages. Aśvaśāstra[42] (अश्वशास्त्र).—Soḍḍhala also was well versed in the science of horse breeding. He mentions eightfold characteristics of a good horse. In the constitution of the body, the horse should have proper height, length and stoutness as compared with the standards of these measures,

- The pair of ears should be small,
- The mane, the skin and the hair should be soft.
- The knee, the lower part of the leg and mouth should be without redundant flesh,
- The eyes, the hack and the breast should be realty glossy,
- The neck should be protruding,
- The hoofs should be hard.
- The forehead, the waist, the shoulders, the hack and the chest should be large.

Thus, it is evident that the clinical knowledge of horses was there since 3rd cent.BCE and therefore, there is nothing surprise that such literature was translated into other languages and countries also. Some examples are discussed below.

How the horse-traders treacherously acted and deceived the Indian rulers: The Arab merchants of all categories were playing carrot and stick policy with Indian rulers – initially submission, politeness and discounts. Slowly, when they could establish their trade with establishment, demand was created and supply controlled. Then, they negotiated with requests to act as security men, guards and paid soldiers, they could exercise their position. Then, they became mercenaries and threatened Indian rulers and people with their terror activities of attacking, looting marauding. One incidence is cited – The Turkish horse-merchants had become a common sight in those days in India. Lakshmana Sena (1178-1206) used to buy horses from them. Bakhtiyar Khalji made a sudden attack on the palace in 1204 CE, pretending to be a horse-merchant, and created a great confusion[43]. All the wealth of the ruler, including his wives and children were captured and looted[44]. The Sena ruler octogenarian Lakshmana Sena had been a noted warrior, but, he never expected such terror attack within palace, that too, when he was taking food. Earlier he destroyed the Nalanda and Vikramasila Universities destroying valuable books and killing professors and students. The same treacherous way of gruesome killings of Vira Ballala and Ramaraya can also be noted when they were above 80 and 90 years old. So this incidence proves how they had been treacherous and cruel also in their activities. Then with their explicit acts of piracy and maritime crimes, they dominated the western sea, thus becoming "Arabian Sea." This can be compared with the "Cholas lake" of the other side. The Eastern Sea was known as "Cholas Sea" and coast "Coromandal."

The origin of stirrup and horse shoe: A careful study of the Mohammedan sources show that from the Arab conquest of Sind onwards, the Arab / Mohammedan of different categories adopted the strategy of exploiting the slaves and horses. They were traded and supplied to the required. However, there was competition among the Arab, Persian and Central Asian marauding groups. Even in this horse trading, Indian Muslim dynasties beginning in the Ghaznavid period (977–1186) usually derived part of their legitimacy from *jihad* (sacred war) against non-Muslim rulers[45]. The Ghaznavids were the first Muslim government to rule both Khorasan and north-western India and controlled the trade on the neighboring roads. The Ghurid dynasty (early 11th century to 1215) also pursued similar policies. Here, here origin of stirrup and horse shoe also comes for discussion in the case of war horse and cavalry. While scientific studies trace the origin to India, Irfan Habib tries to suggest outside source or influence[46]. Initially, Indians might have used them made of leather and wood and then switched over to iron[47]. Another device, the introduction of which increased the overall efficiency of a horse to gallop over hard and rocky surface; acting as a protective sheath for the horse and providing a firm grip of ground, was horse-shoe. The claim has been that there is not even a single evidence of its use by the Indian cavalry including the Rajput rulers of India[48]. It is claimed that for the first time in India certain sculptures of Hoysala especially at Somnathpuram belonging to the 13th century clearly show the appearance of nailed shoe. However, stirrup was clearly depicted on the Kushana coins and Sanchi sculptures. Here, the written records of the Indians are ignored, whereas that of the Arab, Persian and other Middle-East writings are accepted as historical truth. When the Tabaqat-i-Nasiri of Minhajuddin Siraj has to be accepted, then the Sangam literature and Kalingattupparani have also to be taken into account. The researchers have to take both accounts and come to conclusion. When the sculptural evidences are taken for interpretation, it can be easily be noted that the same evidences were not in full form, as they have been broken, mutilated and many parts missing. Thus, definitely such interpretations have been incomplete, partial and limited just like the sculptures and hence subjective and biased also. Therefore, the literary, sculptural and numismatic evidences cannot be ignored in research and historiography.

The existing theories about the origin of horse in South Asia: Horse, domestication of horse, making for riding with saddle, stirrup horse shoe etc., converting into warhorse, horse mounted soldiers / archers and thus cavalry playing crucial role – these are the crucial issues in researching the origin of horse in India. As usual, the western scholars point out that the literary evidences of the ancient period does not match with the other historical evidences. At present, scholars decide that all Asian horses genetically derived wild horses and tamed along the west Eurasian steppes at least 5500 years ago[49]. The steppe horses have a compact body and noticeably rounded head profile, often described as "ram-shaped." The plateau-thorough-bred category is identified with an angular head, a long neck and lower legs and have characteristically short hair, sometimes with metallic gilt.

1. Steppe horses
2. plateau-thorough-bred
3. representational (mixed of the above)

Warhorses replacing elephants in India is considered as a turning point in the warfare. Thus, some scholars argued that the horses depicted in the early Indian art are also of plateau-thorough-bred, but they appeared smaller, comparing with the Greeco-Scythian art. As Asoka copied such stone art from the Achamenian, Indians should have copied[50] such art-depiction. As for as the South is concerned, some opined that the mounted archer was conspicuously absent, who had become the prominent military figure in the northern plains of Hindustan.

Biased research about the horse in the medieval period India: As the non-Indian researchers write without knowing the facts, some argue that the spread of Indian hippiatric texts to the west is inexplicable, oral and so on[51].

- Several of the major Arabic hippiatric texts of the twelfth through fourteenth centuries, composed from Spain to the Yemen, include chapters on the interpretation of the colors and markings of horses and attribute this knowledge directly to Indian authorities[52].
- As Housni Shehada observes[53], "*the idea that markings or patches on the horse's body indicate the good or bad luck that it may bring to its master is characteristic of the Indian tradition.*" It is exactly this importance of markings (marks) that al-'Umari highlights in his account of India[54].
- Yet attempts to map a textual chain of translation and transmission from South Asia to Spain via Abbasid Baghdad have largely failed, as these sources acknowledge only generic "Indian sages" or Indian viziers who cannot be traced historically. This vagueness contrasts with the care usually paid to chains of textual and/or oral transmission in Islamic scholarship and highlights the extent to which the hippiatric textual tradition emerged relatively late in the Middle East, and often from direct personal experience in the craft of horse care.
- The western researchers with their limited study or bias conclude[55], "*Horse representations never became commonplace in the south of the Tamil country, and, as the art historian Crispin Branfoot[56] has shown, it is only in the sixteenth century* (*and largely in the Tamil north, on the border with Andhra Pradesh*) *that horses enter the sculptural repertoire.*" This is totally wrong, however, the researcher could get away saying that the study was for the period "1500-1700." This 200 years period has historical bearing and hence such erroneous research should be checked.

Here, during the Abbasid period, the Indian professors were invited by the Sultan and many important Indian works on science, medicine, technology, mathematics, astronomy etc., were translated into Arabic and thus they spread to Europe. Therefore, the Indian origin cannot be denied.

Conclusion

In view of the above discussion with many evidences, the following aspects are recorded as concluding points in the context:

1. The presence of horse in India - The literary (Tamil, Persian and Chinese), inscriptional (Indian and SEA) and sculptural evidences (India and SEA) prove the fact found in different sources.
2. The gap between the Sanskrit and Tamil literature and the non-Indian categories of horse introduction and import prove the existence of indigenously bred horses.
3. The hippiatric / medicinal texts about the horses and their spread to the European countries through the Arabs also prove such exigency.
4. The historians, historiographers and horse-researchers should deal with the literary, inscriptional, sculptural, numismatic and other material evidences without any bias about the invention and usage of stirrup, horse-shoe and other important parts for the effective cavalry operations.

5. The Indian sculptural and numismatic evidences amply prove that such parts were used since c.300 BCE.
6. The argument that horses were not in India, as they could not be bred or made live in the Indian conditions – is denied with evidences.
7. The horses were imported from the north-west through the Arabs, Persians and Mohammedans and north-east through the agents of Tibet, Arabs and SEA region.
8. Rajaraja – I march towards the Ganges proves that he had horse-agenda also in negotiating with the Palas and Gahadavalas.
9. As the Kalinga ports were the most suitable location for the sailing of ships to SEA region, the Bengal and the South Indian rulers or their merchants had understanding in exporting their merchandise including horses.
10. The Imperial Cholas (950-1250 CE) were using cavalry deploying various categories of horses both imported and indigenous categories.

Notes

1. The reference -பட்டினப்பாலை, "நீரின் வந்த நிமிர் பரிப்பூரவி" - refers to Pumpuhar / Kaverippumpattinam. Maduraikanchi also makes such reference. Kalingattup parani gives vivid description of horses.
2. Nigandus – thesaurus like works compiled during the medieval period – Pingalandai, Chudamani, Asiriyar, Agarathi etc., have been popular and available printed version also.
3. However, during the medieval period, from the Moghul period onwards, it is nted that the horses were sold a high prices exploiting the requirements of the Indian rulers, kings and traders.
4. A.V.Kannaiah Naidu (commentator), *Kalingattupparani – Text and commentary*, Sri Bharati Press, Madras, 1955.
5. Nath, Maj. Gen. Rajendera, *Military Leadership in India: Vedic Period to Indo-Pak Wars*. Lancers Books, New Delhi, 1990, pp.113-121
6. K. V. Ramakrishna Rao, The Nolamba pillars brought by Rajendra Chola from Hemavati to Thanjavur, *Proceedings of Andhra Pradesh History Congress*, Anantapuram, 2017, pp.226-233.
7. K.V. Ramakrishna Rao, The Victory Pillars of Rajendra Chola: Missing from Pegu (Myanmar), Kedah (Malaysia) and Mauritius, *Proceedings of the South Indian History Congress,* Salem, Volume. 37, 2017, pp. 613-619.
8. As horses were difficult to breed in the Indian climate, they were imported in large numbers, usually from Central Asia, but also from elsewhere Horse traders are already mentioned in Atharvaveda 2.30.29. A painting at Ajanta shows horses and elephants that are transported by ship.

   Himanshu Prabha Ray, Early Coastal Trade in the Bay of Bengal, in Julian Reade (ed.) *The Indian Ocean in Antiquity.* London: Kegan Paul Intl. 1996.

   Trautmann (1982) thus remarked that the supply and import of horses has "always" been a preoccupation of the Indians, and "it is a structure of its history, then, that India has always been dependent upon western and central Asia for horses."

   Bryant, Edwin. *The Quest for the Origins of Vedic Culture*. Oxford University Press. 2001.
9. Chetti street is found in Burma, Si Lanka, Singapore and other SEA countries and they were changed slowly during the course of time and disappeared.

10. Lambourn, Elizabeth. "Towards A Connected History of Equine Cultures in South Asia: Bahrī (Sea) Horses and" Horsemania" in Thirteenth-Century South India." *The Medieval Globe* 2.1 (2016): 57-100.
11. Jazim, Nur al-ma'arif, 1:189: (al-sūliyān wa hum ahl al-raghba fī shirā' al-khayl) and 1:190 (wa sā'ir al-hind qalīl 'an yarghubū fī shirā' al-khayl ka-raghba al-sūliyan). These documents have recently been edited under the title Nūr al-ma'ārif or Light of Knowledge, and they considerably deepen our understanding of the economic history of the period. Eric Vallet, in L'Arabie marchande, has worked most closely on those related to the horse trade, although they were also consulted by Hokoichi Yajima.
12. Tansen Sen, *Buddhism, Diplomacy, and Trade: The Realignment of Sino-Indian Relations, 600-1400,* Delhi: Manohar, Indian Reprint, 2004, p. 167.
13. Karashima, Noboru 2009. *Medieval commercial activities in the Indian Ocean*, pp. 20–60 in Kulke, Hermann, K. Kevasapany and Vijay Sakhuja eds 2009. Nagapattinam to Suvarnadwipa: Reflections on the Chola naval expeditions to Southeast Asia, Singapore: ISEAS.
14. Karashima, Noboru, *The Tenth to Twelfth Centuries*, pp.121-168.
15. Cremin, Aedeen. Horse-Trading and Horse-Carving: Horses on Angkorian Temple Reliefs, angkordatabase. asia, *EurASEAA Conference in Dublin*, October 2013
16. The Chams or Champa people, Urang Campa; Vietnamese: Người Chăm or Người Chàm; Khmer: Chônchéatě Cham), are an Austronesian ethnic group in Southeast Asia and are the original inhabitants of central Vietnam and coastal Cambodia before the arrival of the Cambodians and Vietnamese, during the expansion of the Khmer Empire (802–1431 CE) and the Vietnamese conquest of Champa (11^{th}–19^{th} century CE)
17. Đại Việt (literally Great Việt), was a Vietnamese monarchy in eastern Mainland Southeast Asia from the 10th century CE to the early 19th century, centered around the region of present-day Hanoi. Its early name, Đại Cồ Việt, was established in 968 by the ruler Đinh Bộ Lĩnh.
18. In the Hoysala domains from 1167 CE onwards, horses are mentioned among lists of taxable commodities, although there is no mention of either their prices, their numbers, or their place of origin; see inscriptions listed in Epigraphia Carnatica, vol. 9, inscription no. BI 170; also inscription of 1209 CE Epigraphia Carnatica, vol. 7, inscription no. Hn.35 (cited in Appadurai, Economic Conditions, 119) and another dated 1261 CE listed in Epigraphia Carnatica, vol. 9, inscription no. BI 409 (Ibid., 129–30)
19. . P. K. R. Venkatarama Ayyar, Medieval Trade, Craft,and Merchant Guilds in South India, *Journal of Indian History* (*JIH*), Vol. 25, Part. 3, 1947, p. 271.
20. A. Appadorai, *Economic Conditions in Southern India*, vol. 2 (Madras, 1936), pp. 553-563
21. Chakravarti, Ranabir. "Early Medieval Bengal and the trade in horses: A note." *Journal of the Economic and Social History of the Orient* 42.2 (1999): 207
22. R. Chamapakalakshmi, *Trade, Ideology, Urbanization: South India 300 BCE – 1300 CE*, New Delhi, 1996, pages 107, 129.
23. Chakravarti, Ranabir. *Equestrian demand and dealers: The early Indian scenario* (*up to c. 1300*). na, 2009.
24. Tabaqat-i Nasiri, named for Sultan Nasir-ud-Din, is an elaborate history of the Islamic world written in Persian by Minhaj-i-Siraj Juzjani and completed in 1260, consisting of 23 volumes. The Tabaqat-i Nasiri is the only source for the Khaljis rebellion in Bengal against the sultan of Delhi from 1229-1230.

    Tabakat I Nasiri, *A General History of The Muhammadan Dynasties of India* (*810-1260 CE*), Vol I, English translation by Major H G Raverty, first published by the Asiatic Society in 1881, reprinted by Munshilal Manohsrlal, New Delhi, 1970
25. Chakravarti, Ranabir. "Early Medieval Bengal and the trade in horses: A note." *Journal of the Economic and Social History of the Orient* 42.2 (1999): 194-211.

26. Such books are available in Tamil also found in the Saraswati Mahal library, evidently translated from the Sanskrit sources.
27. Maurer, Petra, and Angela von den Driesch. "*Tibetan Horse Books' from the High Himalayas*." Bar International series, 1560 (2006): 355.

    Maurer, Petra. "Horse and Social Status or How to Assess the Quality of a Horse." *Revue d'Étude Tibétaine "Reflections on Social Status in the Tibetan World* 49 (2019), p.206.
28. Meyer, F. 1988, *gso-Ba Rig-Pa. le Système Médical Tibétain le Système Médical Tibétain* Presse du CNRS, Paris.
29. Chaul had been an important trading town-centre, where, many foreigners used to come and trade their goods. It was famous for cotton and cotton goods. The Portuguese established a factory in 1516.
30. Gommans, Jos JL. *The Indian Frontier*. Taylor & Francis, 2017.
31. For the South Asian conditions of horse-breeding, see my *The Rise of the Indo-Afghan Empire c.1710-1780* (Leiden: E.J. Brill, 1995), 69-79
32. For an analysis of the horse-warrior revolution in South Asia, see –

    A. Wink, *Al-Hind: The Making of the Indo-Islamic World*, vol. 2: *The Slave Kings and the Islamic Conquest 11th-13th Centuries* (Leiden: E.J. Brill, 1997).

    For southern India, see J. Deloche, *Horse and Riding Equipment in Indian Art* (Pondicherry:

    Indian Hertiage Trust, 1990).
33. Bin Yang, Horses, Silver and Cowries: Yunnan in Global Perspective, in *Journal of World History* (2004): 281-322.
34. Cremin, Aedeen. Horse-Trading and Horse-Carving: Horses on Angkorian Temple Reliefs, angkordatabase. asia, *EurASEAA Conference in Dublin*, October 2013.
35. Guy 2011, *Tamil merchants and the Hindu-Buddhist diaspora in Early Southeast Asia,* pp. 243–262. In Pierre-Yves Manguin, A. Mani and Geoffrey Wade eds 2011. *Early interactions between South and South East Asia*: *Reflections on cross-cultural exchange*, Singapore: ISEAS.
36. Roveda 2005, *Images of the gods*. Bangkok: River.p.220, fig. 5.149;

    Piriya Krairiksh 2012, *The roots of Thai art*. Bangkok: River. P.199
37. Karashima 2009: table 8.2, *op. cit.*
38. Clarence-Smith, William G. *"Breeding and power in Southeast Asia: horses, mules and donkeys in the longue durée."* In *Environment, Trade and Society in Southeast Asia*. Brill, 2015. Pp. 32-45.
39. Chakravarti 2009. *"Equestrian Demand and Dealers: The Early Indian Scenario, up to c. 1300."* In Pferde in Asien: Geschichte, Handel und Kultur, edited by Bert Fragner, Ralph Kauz, Roderich Ptak and Angela Schottenhammer, 145–159.

    Chakravarti,Vienna: Verlag der Österreichischen Akademie der Wissenschaften 2009. "Equestrian Demand and Dealers: The Early Indian Scenario, up to c. 1300." In Pferde in Asien: Geschichte, Handel und Kultur, edited by Bert Fragner, Ralph Kauz, Roderich Ptak and Angela Schottenhammer, 145–159. Vienna: Verlag der Österreichischen Akademie der Wissenschaften (1999:205, 2009:151–152);

    Wade (2009b:164–165).
40. Wade, Geoff, "*The Horse in Southeast Asia prior to 1500 ce: Some Vignettes*." In Pferde in Asien: Geschichte, Handel und Kultur, edited by Bert Fragner, Ralph Kauz, Roderich Ptak and Angela Schottenhammer, 161–177. Vienna: Verlag der Österreichischen Akademie der Wissenschaften, p.172.

    Chao Ju Kua [Zhao Rugua]- Chau Ju-kua: His Work on the Chinese and Arab Trade in the Twelfth and Thirteenth Centuries, Entitled Chu-Fan-Chï. Translated and annotated by Friedrich Hirth and W.W. Rockhill. St. Petersburg: Imperial Academy of Sciences, 1911:72

Ito (1984:378);

Quiason, Serafin D. 1966. *English 'Country Trade' with the Philippines*, 1644–1765. Quezon City: University of the Philippines Press, p.73 and 105.

41. van der Geer, Alexandra. Equus caballus, the domestic horse, *Animals in Stone*. Brill, 2008. 257-289.
42. The Aśvaśāstra (अश्वशास्त्र) is conventionally attributed to Nakula the Pāṇḍava who in the Mahābhārata has been called a horse expert (perhaps because his mother was a princess of the equestrian Madra people). In its present form the Aśvaśāstra was compiled by Śālihotra. Naming treatises after traditionally recognized experts in that subject has been a norm in early India. Shalihotra Samhita is an early Indian treatise on veterinary medicine that was likely written in the 3rd century BCE. Ashvashastra is another book on horses that was written by Abhinavachandra.
43. Satish Chandra, *A History of Medieval India* (*800-1700*), Orint BlackSwan, New Delhi, 2007, p.72.
44. Tabakat I Nasiri, *A General History Of The Muhammadan Dynasties Of India* (*810-1260 CE*), Vol I, English translation by Major H G Raverty, first published by the Asiatic Society in 1881, reprinted by Munshilal Manohsrlal, New Delhi, 1970, pp.556-560.
45. Pour, Ali Bahrani. *"The Trade in Horses Between Khorasan and India in the 13th–17th Centuries."* In *The Silk Road* 11 (2013): 123-138.
46. Irfan Habib, Chaper 10, Non-Agricultural production in Economic History of Medieval India 1250-1500, in *History of Science, philosophy and culture in Indian Civilization*, Vol.VIII, Pearson, New Delhi, 2011, pp.86-87
47. Irfan Habib quotes from Adab-ul-Harb-wa-Shujjat of Fakhr-i-Mudabbir, which attest the use of stirrup in India {rikab) by the Delhi Sultans of 13th century AD.To the use of Arabian term rikab in Persian source, he states that in original it meant a camel carrying travellers but by the 11th century AD, it began to be used to mean stirrup.
48. Pant, G.N, *Horse & Elephant Armour*. Agam Kala Prakashan, Delhi,1977, p.177
49. Warmuth, Vera. *On the origin and spread of horse domestication*. Diss. 2012.
50. Jos Gommans Warhorse and gunpowder in India c. 1000–1850, *War In The Early Modern World, 1450-1815*. Routledge, 2020, p.110.
51. Lambourn, Elizabeth. "Towards A Connected History of Equine Cultures in South Asia: Bahrī (Sea) Horses and" Horsemania" in Thirteenth-Century South India." *The Medieval Globe* 2.1 (2016): 57-100.
52. These include Ibn Awwam al-Ishbili's twelfth century Kitab al-filaha, composed in Spain; the Kitab al-baytarah of the Mamluk vizier Sahib Taj al-Din (d. 1307 CE), which includes a "chapter on what the Indians said about the colors of beasts of burden, the round patches and the marks"; the Kashif of Abu Bakr al-Baytar, chief veterinarian to Sultan Qalawun of Egypt (r. 1285–1340); and the ca. 1331 treatise by the Rasulid ruler al-Malik alMujahid. See *Shehada, Mamluks and Animals*, 92–94 and 152.
53. Ibn Fadl Allah al-'Umari, *Masalik al-absar*, 40.
54. Lambourn, Elizabeth. Opt.cit,p.91.
55. Branfoot, "Expanding Form," 206. Branfoot (203–06) offers the most comprehensive history of this column type.

    Branfoot, Crispin *"'Expanding Form': The Architectural Sculpture of the South Indian Temple ca. 1500–1700." Artibus Asiae* 62, (2002): 189–245.